

THURSDAY, MARCH 24, 1887

THE NECESSITY FOR A MINISTER OF
EDUCATION

IF we are justified in judging of the progress of right ideas on the importance to the nation of science and scientific instruction by the outcomes of one week, then certainly we may congratulate ourselves upon the fact that at last the views which we have for the last eighteen years, in season and out of season, been putting forward are beginning to attract public attention.

There can be no doubt that the general interest is now thoroughly aroused on this matter. In spite of the absolute block of anything like a debate upon education in Parliament, scientific and political leaders say their say elsewhere, and the manner in which these utterances are referred to and enlarged upon in the leading journals is a sure indication that the public interest is known to be growing, and that it is now generally acknowledged that our welfare as a nation depends upon a proper consideration of educational questions.

The first utterance we have to refer to is the admirable speech delivered by Lord Hartington on the night our last number went to press. Lord Hartington had consented to give away the prizes and make an address at the Polytechnic Young Men's Christian Institute, an organisation which now numbers nearly 7000 students, for the existence and endowment of which England is indebted to the munificence and clear-sightedness of one individual, Mr. Quintin Hogg.

It was not to be wondered at that Lord Hartington, with such an unaccustomed task before him, should have referred, in the course of his speech, to Prof. Huxley's recent address, in which the fact was emphasised that if peace has her victories, there must be some who are vanquished; that there is death to the conquered in peace as in war, the victims of peace being starved as a result of continual depression of trade.

The interest of Lord Hartington's speech was that the question which Prof. Huxley had approached from the Darwinian point of view—the survival of the fittest, the destruction of the unfittest—was to him a question of possible contemporary politics which he had to consider, and the consideration he gave to it led him to emphasise Prof. Huxley's view of the situation. It is clear moreover that the opinion given was not one hastily formed, for the former paramount position of this country when she had a monopoly of iron, and coal, and other material resources, and when there was no science to speak of anywhere, either here or abroad, had been fully taken into consideration. We quote from the speech:—

"No doubt we should still have our material resources, our iron and steel, and the muscular energy of what would then be our superabundant population; but instead of being what we are now, we should be hewers of wood and drawers of water for the world. If ever our raw materials could be manufactured for the uses and wants of the world better in other countries than in our own, we should become the slaves and servants of the rest of the world, instead of its leaders and masters, as we have been hitherto."

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Now, if a politician of Lord Hartington's eminence tells us that this may happen as a result of our being beaten in a campaign of peace, it is proper to consider whether we could be very much worse off in the event of a disastrous war. Certainly, to fend off this result by war, we, as a nation, would not hesitate to double the national debt.

Lord Hartington next went on to show that war also now depends upon science.

"There are some who go so far as to deprecate any large expenditure whatever, even when necessary for the efficiency of our services. These people point to the success which we have attained in former times when almost alone we have contended successfully against a whole continent; they point to the undiminished strength and courage of our soldiers and sailors, to the vast resources—industrial, manufacturing, and financial—of the country; and they tell us that if we only husband these resources they will pull us through in future emergencies as they have done in the past. But I would say that all these arguments are utterly vain and futile unless we can prove that the conditions under which we should have to fight are entirely similar to those under which we have fought in the past. If, on the other hand, it can be proved that wars are no longer decided by personal courage or endurance, but by the possession of scientific knowledge and all the most approved and perfected appliances, then we cannot afford to disregard the teaching and the experience of the rest of the world, and cannot afford to allow ourselves to be behindhand in the possession of the scientific knowledge and appliances that are demanded."

Lord Hartington then insists upon the importance of science both in peace and war.

"If undoubted success can only be gained by the possession of scientific knowledge and the application of the most scientific instruction to the masses of our people, then it follows that we shall fall behind in this industrial competition and warfare if we do not possess ourselves of these necessities."

He holds that the army of peace must be aided by the State as well as the other. We no longer think of keeping out an invasion by train-bands, and volunteers, and our merchant fleet. For peace purposes also, then, local effort alone will not do all that is necessary. We have found this out already, and we have the Science and Art Department as well as the Admiralty and War Office. Lord Hartington holds that the Science and Art Department must be strengthened so far as technical instruction is concerned.

We see, then, that at last we have one political leader who views science and scientific instruction in the true light, and has the courage of his opinion. Science is to be aided on precisely the same grounds that we aid the army and the navy. It is no longer a question of merely paying for Sweetness and Light, or of giving a poor dog a bone.

It was not to be expected that Prof. Huxley, who has so unceasingly done all in the power of a single individual to place the right views on this matter before the public, would rest content with the note of warning to which Lord Hartington, as we have seen, has so forcibly drawn attention.

Under the title of "The Organisation of Industrial

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Education" a letter appeared in the *Times* of the 21st inst., which we print *in extenso* elsewhere. The main purpose of this second outcome is to show that at the present moment what is chiefly lacking in the army of peace is organisation and a proper headquarter staff—an Educational Commander-in-Chief. Reading between the lines of the letter, it is easy to see that one of the things "organisation" is expected to do, nay, must do, is to prevent so-called "economy" from thwarting every attempt at progress. "Economy does not lie in sparing money, but in spending it wisely," is a maxim that must be commended not only to the Treasury, but to local bodies.

It is probably the feeling that the proposals of a strong Minister of Education, with a full knowledge of his subject and in touch with all the most eminent educationalists of his time, would be sure to commend themselves to Parliament, and that the annual charge would be increased, which has induced successive Ministries to postpone the creation of such an office. It is now thirteen years since both the Duke of Devonshire's Commission and Parliament itself discussed the question; the latter on the motion of Mr. (now Sir Lyon) Playfair. Three years ago the Report of the Select Committee presided over by Mr. Childers unanimously recommended that a Minister of Education should be appointed. With the growing feeling on the part of the public on this matter, if an opportunity presents itself of again bringing forward this proposal it will not be allowed to be dropped.

It is clear from Prof. Huxley's letter that the present machinery is not adequate: it can only be strengthened and consolidated by the appointment of a Minister. One enormous advantage of such a Minister would be that we should have an acknowledged Department to apply to, absolutely in sympathy with those who wish to bring about any improvement in our educational machinery. Quite recently we have had two deputations on purely educational matters: one, for an endowment to the Victoria University, to the Chancellor of the Exchequer, and the other, for further aid to technical education, to the Lord President. It is very difficult for a plain man to understand why the Chancellor of the Exchequer should have been chosen in one case and the Lord President in the other: of course there is an official reason, but it only adds point to the grotesqueness of the present arrangements.

We have, however, to refer to these deputations from another point of view. The prayer of the Victoria University has been granted: that the needed assistance in the other matter—technical instruction—will be granted at once is by no means certain. However this may be, well-wishers of science must thank Mr. Mundella for his vigorous pleading of the cause they have at heart.

The object of the last deputation, as Mr. Mundella pointed out, was to ask the Government to take a very modest step in the direction of the organisation of industrial and commercial education. The education of the 4,600,000 on the books of the elementary schools is confined to education of a purely elementary character, and anything in the shape of manual or industrial education is treated in a way very disheartening to those interested in the question. At present our industrial classes are like badly drilled soldiers fighting a battle with antiquated weapons—

it is like sending our soldiers into the field, armed with Brown Bess, to meet the best armed soldiers of Europe. Dr. Konrad, in a report on the Prussian system in its bearing on the national economy, said the superiority of the Western to the Eastern workman, and of the German to the Englishman, was well established; and he added that no doubt the Englishman by his enormous perseverance and his wonted diligence got through considerably more work in the sphere to which he had been long accustomed, but he was far behind the German in capacity for adapting himself to new circumstances. This was the result of the better and more general training which the Germans got in their schools. Mr. Mundella acknowledged that there had been repeated attempts to do something in England to improve the condition of things, but where public bodies had interfered they had acted beyond their powers and been punished accordingly. It was freedom from the restrictions under which these authorities laboured that the deputation sought. They asked also for increased powers to promote industrial, scientific, and technical training, and that for this purpose they should be put in connexion with the Science and Art Department. The cost of executing what they proposed would be trifling.

Sir Lyon Playfair contended that a short Act of three clauses would do all that is wanted. We hope soon to see it. Sir B. Samuelson, as Chairman of the Associated Chambers of Commerce, presented a memorial from that body, and Mr. Howell hit the nail on the head by stating that for "unemployed," in connexion with our industrial population, now so often used, the word "unskilled" should be substituted.

We are bound to say that Lord Cranbrook's answer was sympathetic, but he is clearly of opinion that the Government can do nothing because "Parliament has not really pronounced on the subject of technical instruction"!

ROSENBUSCH'S "PETROGRAPHY"

Mikroskopische Physiographie der massigen Gesteine.

Von H. Rosenbusch. I. Abtheilung. Zweite gänzlich umgearbeitete Auflage. (Stuttgart, 1886.)

THE first part of the second edition of this important work has at length appeared, the author having wisely decided not to keep back this instalment until the whole has been completed. Petrography advances nowadays with such gigantic strides, and so quickly are new facts accumulated and new theories elaborated, that as soon as the last chapters of a treatise on this science have been written it is almost time to begin re-writing the first.

This book has been looked forward to by petrographers with a certain amount of pardonable impatience, in the hope that it would do something towards clearing away the mists that envelop rock-classification and nomenclature. Since the introduction of the polarising microscope into petrographical research, old familiar names—like greenstone, trap, felstone, trachyte, &c.—have either been discarded or materially modified in their use; and we now talk with Gumbel of lamprophyre, proterobase, picrophyre, palæophyre, palæopicrite, leucophyre, and the like; or we use names manufactured from the locali-